

12th St.

Brandywine Creek monitoring #2
June 2001 HARDNESS

**U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland**

ORIGINAL



SDMS DocID

2241209

ANALYTICAL REPORT

**12TH STREET LANDFILL
SUPERFUND REMOVAL/REMEDIAL
Lab Request # REQ01139**

June 25, 2001

U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland

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June 25, 2001

ANALYTICAL RESULTS: 12TH STREET LANDFILL [REQ01139]

Dear Michael Towle (3HS31),

Enclosed is our analytical report for the above case. It is organized into several sections: Analytical Request and Sample Descriptions, Organic, Inorganic, and Microbiological Results. All data were peer reviewed.

Analytical Request and Sample Descriptions: (General)

Each laboratory assigned number, station, description, matrix, sample date and locational data is reported. A table summarizes the tests assigned to each sample. A glossary and qualifier code definition is provided.

Inorganic Results:

For requests assigned inorganic tests, results are grouped by service group, e.g., Metals. Sample results are reported; non-detects are provided with the actual quantitation limit. Method description and quality control protocols are described in analyst narratives.

Organic Results:

For requests assigned organic tests, results are grouped by service group, e.g., Volatile Organic Compounds. Only detected analytes are reported. Nominal Quantitation Limit (NQL) tables are provided for each service group. Specific information for the calculation of Actual Quantitation Limits (AQL) achieved for a given sample is included. Quality control values are provided in summary tables with acceptance criteria. Method description and quality control protocols are described in analyst narratives.

Microbiological Results:

For requests assigned microbiological tests, sample results and quality control values are incorporated into a single table. Method description and quality control protocols are described in analyst narratives.

If you have any questions we may be reached at 410-305-2658.

Approval for Release:

Susan Warner

Site Contact(s): (b) (4) (TETRA TECH EM INC.)
Michael Towle (3HS31)

U.S. EPA Region III
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Facility: 12TH STREET LANDFILL
Program: SUPERFUND REMOVAL/REMEDIAL

Lab Request #: REQ01139

SAMPLE DESCRIPTIONS

<u>Sample #</u>	<u>Station, Description</u>	<u>Matrix</u>	<u>Type</u>	<u>End Collection</u>		<u>Latitude</u>	<u>Longitude</u>
				<u>Date</u>	<u>Time</u>		
01061917	STA SW-1, SW-1(downstream bank sample)	Water - Type Unspecified	GRAB	06/18/01	10:45		
01061918	STA SW-2, SW-2(midstream bank sample)	Water - Type Unspecified	GRAB	06/18/01	10:55		
01061919	STA SW-3, SW-3(upstream bank sample)	Water - Type Unspecified	GRAB	06/18/01	11:05		
01061920	STA SW-4, SW-4(middle of Brandywine Creek)	Water - Type Unspecified	GRAB	06/18/01	11:15		
01061921	STA SW-5, SW-5(field blank)	Water - Type Unspecified	GRAB	06/18/01	10:30		

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Facility: 12TH STREET LANDFILL
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TESTS REQUESTED

Inorganic Test Assigned	Sample No. 010619-														
	17	18	19	20	21										
Hardness	X	X	X	X	X										

(X = test was requested)

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QUALIFIER CODE AND GLOSSARY DEFINITIONS

Qualifier Codes:

<	=	Sample value is below the quantitation limit. Quantitation limit reported.
</=	=	Reported value is estimated. Sample was analyzed in duplicate, one value is equal to or above the quantitation limit and one below. Average of quantitation limit and detected value reported.
>	=	Sample value is above the quantitation range.
A	=	Quality control value is outside acceptance limits.
B	=	Not detected substantially above (10 times) the level reported in the laboratory or field blanks (includes field, trip, rinsate, and equipment blanks).
C	=	See report narrative for analyst's observations concerning this result.
D	=	Sample and duplicate values are below the quantitation limit. Quantitation limit reported.
E	=	Value exceeds a theoretically greater value (e.g. dissolved > total, orthophosphate > total phosphorus). However, the difference is within the expected precision of the analytical techniques and is not statistically significant.
I	=	An interference exists which masks true response. See report narrative for explanation.
J	=	Analyte present. Reported value is estimated; concentration is outside the range for accurate quantitation.
K	=	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	=	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
N	=	Presumptive evidence indicates the presence of the compound. Special methods and/or method modifications may be needed to confirm its presence or absence in future sampling efforts.
NA	=	Analysis was not requested.
Q	=	No analytical results. See report for explanation.
R	=	Unreliable results. Analyte may or may not be present in the sample. Supporting data is necessary to confirm results.
T	=	Tentatively Identified Compound. Identified as a result of a library search using the EPA/NIH Mass Spectral Library. Authentic standards were not available to properly identify and quantitate the compound. The reported concentration is an estimate.
TD	=	Spike recovery too dilute for accurate quantitation.
UJ	=	Not detected. Quantitation limit is estimated.
UL	=	Not detected. Quantitation limit is probably higher.

Glossary:

()	=	Numbers in parentheses are analytical spike recoveries (e.g. post-digestion spikes).
[]	=	Numbers in brackets are matrix spike recoveries (e.g. pre-digestion spikes).
MS/MSD	=	Matrix spike/matrix spike duplicate; a known increment of target analyte made to a sample before preparation or analyses.
MSA	=	Method of Standard Additions
RPD	=	Relative Percent Difference; the results for duplicate analyses are presented as the mean and the relative percent difference.

$$RPD = \frac{|\text{Replicate1} - \text{Replicate2}|}{(\text{Replicate1} + \text{Replicate2})/2} \times 100$$

07/04/2010
08:10:10
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INORGANIC ANALYTICAL REPORT

**12TH STREET LANDFILL
SUPERFUND REMOVAL/REMEDIAL
Lab Request # REQ01139**

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U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland

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Facility: 12TH STREET LANDFILL
Program: SUPERFUND REMOVAL/REMEDIAL

Lab Request #: REQ01139

INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	01061917	01061918	01061919	01061920								
Station ID :	SW-1	SW-2	SW-3	SW-4								
<u>ANALYTES</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>	<u>SAMPLE</u>								
Hardness	Units: mg/L	% Rec	RPD	mg/L	% Rec	RPD	mg/L	% Rec	RPD	mg/L	% Rec	RPD
Hardness	71.4		0	80.2	[100]		76.0			80.6		0

Sample Number:	01061921		
Station ID :	SW-5		
<u>ANALYTES</u>	<u>FIELD BLANK</u>		
Hardness	Units: mg/L	% Rec	RPD
Hardness	<3.3		

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Hardness Determinations**Analyst:**

(b) (4)

Chemist

Methods:

Samples from 12TH STREET LANDFILL (REQ01139) were prepared for analysis by acid digestion and analyzed by inductively coupled plasma optical emission spectrometry. Hardness is reported as the sum of calcium plus magnesium as calcium carbonate. The results are presented in the attached table. The following are the digestion and analytical techniques and methods employed:

Digestion Methods

EPA Method 200.2 (1)

Analytical Methods

Method 200.7 and Internal SOP R3-QA132, elements by ICP-AES (1)

Method 2340 B., Hardness by Calculation (2)

(1) EPA Methods for the Determination of Metals in Environmental Samples, May 1994.

(2) Standard Methods for the Examination of Water and Wastewater, 18th Edition, 1992.

USEPA Contract Laboratory Program Generic Chain of Custody

Reference Case:

Client No:

R31032

SDG No:

L

Date Shipped: 6/18/2001 Carrier Name: FedEx Airbill: 825081938924 Shipped to: US EPA Region 3 OAS/QA Environmental Science Cente 701 Mapes Road Fort Meade MD 20755-5350	Date Received/Received by: _____ Lab Contract No: _____ Unit Price: _____		Sampler (Sign): (b) (4)	
	Transfer To: _____ Date Received/Received By: _____ Lab Contract No: _____ Price: _____		Relinquished By: _____	Date / Time: _____
			Relinquished By: _____	Date / Time: _____
			Relinquished By: _____	Date / Time: (b) (4) Received By: _____

SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE	STATION LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No.	Sample Condition On Receipt
SW-1 (downstream ban	Surface Water/ (b) (4)	M/G	HARD (14)	11 (HNO3) (1)	SW-1 (downstream bank sample)	6/18/2001 10:45	010619-17	
SW-2 (midstream bank	Surface Water/ (b) (4)	M/G	HARD (14)	12 (HNO3) (1)	SW-2 (midstream bank sample)	6/18/2001 10:55	-18	
SW-3 (upstream bank	Surface Water/ (b) (4)	M/G	HARD (14)	13 (HNO3) (1)	SW-3 (upstream bank sample)	6/18/2001 11:05	-19	
SW-4 (middle of Bran	Surface Water/ (b) (4)	M/G	HARD (14)	14 (HNO3) (1)	SW-4 (middle of Brandywine Creek)	6/18/2001 11:15	-20	
SW-5 (field blank)	Surface Water/ (b) (4) Field QC	M/G	HARD (14)	15 (HNO3) (1)	SW-5 (field blank)	6/18/2001 10:30	-21	

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: SW-4 (middle of Bran	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number:	
Analysis Key: HARD = Hardness		Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G		Custody Seal Intact? ____	Shipment Iced? ____

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Contract Laboratory Analytical Services Support, 2000 Edmund Halley Dr., Reston, VA. 20191-3436 Phone 703/264-9348 Fax 703/264-9222

TR Number: 3-555513690-061801-0002

1 **From**
Date 6-18-01 Sender's FedEx Account Number 2551 4203 8
Sender Name (b) (4) Phone 610 485 6410

Company Tetra Tech Em Inc.
Address 709 Chelsea Pkwy. Dept./Floor/Suite/Room
City Boothwyn State PA ZIP 19066

2 **Your Internal Billing Reference** G90031R0007003

3 **To**
Recipient's Name Pat Sasenski Phone 410 305-2667

Company US EPA Region 3 OAS/OA
Address Environmental Service Center
701 Mapes Road
City Fort Meade State MD ZIP 20755-5350



0200 Form I.D. No.

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4b **Express Freight Service**

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DATE: June 15, 2001

SUBJECT: Scheduled Samples for 12TH STREET LANDFILL

FROM: (b) (4)
Sample Manager

TO: Michael Towle (3HS31)

DAS or NSF #: DAS R31032

The Office of Analytical Services and Quality Assurance (OASQA) will analyze samples from the 12TH STREET LANDFILL site. We are expecting to receive samples to arrive by June 20, 2001. If you ship the samples on time, barring any unforeseen difficulties, the fully validated analytical report will be sent to you within 28 calendar days.

We plan to analyze the following:

Parameter	Matrix Description	# of Samples
HARDNESS	Water - Type Unspecified	5

If the parameters requested are incorrect, please call immediately.

Please have the sampler(s) sign as well as print his/her name on the chain of custody form(s). If you encounter a delay in shipping the samples, kindly notify me at (410)-305-2600 at least 24 hours before the samples are due to be shipped.

Comments:

OPTIONAL FORM 89 (7-90)

FAX TRANSMITTAL

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To	Michael Towle	From	(b) (4)
Dept./Agency	USEPA - 3HS31	Phone #	410-305-2625
Fax #	215-814-3254	Fax #	

NSN 7540-01-317-7368

5088-101

GENERAL SERVICES ADMINISTRATION

U.S. EPA Region III
Office of Analytical Services
and Quality Assurance
Fort Meade, Maryland

Section: INORGANIC
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Facility: 12TH STREET LANDFILL
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INORGANIC ANALYTICAL SAMPLE RESULTS

Sample Number:	01061917	01061918	01061919	01061920						
Station ID :	SW-1	SW-2	SW-3	SW-4						
ANALYTES	SAMPLE	SAMPLE	SAMPLE	SAMPLE						
Hardness	Units: mg/L	% Rec	RPD	mg/L	% Rec	RPD	mg/L	% Rec	RPD	
Hardness	71.4		0	80.2	[136]		76.0		80.6	0

Sample Number:	01061921		
Station ID :	SW-5		
<u>ANALYTES</u>	<u>FIELD BLANK</u>		
Hardness	Units: mg/L	% Rec	RPD
Hardness	<3.3		

DAS NO. R31032

OPTIONAL FORM 89 (7-80)

FAX TRANSMITTAL

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To	Michael Towle	From	(b) (4)
Dept./Agency		Phone	
Fax #	215 814 3254	Fax #	

NSN 7540-01-317-7308 5009-101 GENERAL SERVICES ADMINISTRATION